

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bachmann et al.
Serial No.: 09/700,139
Filing Date: December 15, 2000
Title: *Panel Loudspeaker*

Examiner: Michalski, Justin I.
Group Art Unit: 2644
Confirmation No.: 1980
Attorney Docket No.: HAS-008.01

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Sir:

Appellants submit this brief in response to the Examiner's Answer mailed on March 31, 2006. The arguments presented in this brief are identical to those presented in the Reply Brief filed May 2, 2005. No fees are believed due, but the Commissioner is authorized to charge any required fee to Deposit Account No. 06-1448, ref. HAS-008.01.

(1) Real Party in Interest

No change from Appeal Brief.

(2) Related Appeals and Interferences

No change from Appeal Brief.

(3) Status of Claims

No change from Appeal Brief. The application has a total of nine claims, 1-9. Of these, claims 1-6 and 8-9 are pending, and claim 7 is cancelled. Claims 1-4, 6, and 8-9

stand finally rejected. Claim 5 stands objected to for depending from a rejected claim but would be allowable if rewritten in independent form. Claims 1-4, 6, and 8-9 are on appeal.

(4) Status of Amendments

No change from Appeal Brief. There are no unentered amendments in the application.

(5) Summary of Claimed Subject Matter

No change from Appeal Brief.

(6) Grounds of Rejection to be Reviewed on Appeal

Appellants submit three grounds of rejection for review:

- A. that the subject matter of claims 1, 3, 8, and 9 is anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,003,766 to Azima et al. ("Azima"); and
- B. that the subject matter of claim 6 is unpatentable under 35 U.S.C. § 103(a) over Azima.
- C. **(New ground of rejection)** that the subject matter of claims 2 and 4 is unpatentable under 35 U.S.C. § 103(a) over Azima in view of U.S. Patent No. 6,332,029 to Azima et al. ("Azima II").

(7) Argument

- A. Claims 1, 3, 8, and 9 are novel over Azima.

- (1) Claims 1, 3, and 8

In section (10) of the Answer, the Examiner took the position that the vibration of Azima's panel during operation inherently produces a force causing or tending to cause extension in at least a part of the panel's cover 21 and the suspension 3. The Examiner

further stated that the term “mechanical tension” places no limitation on what means or conditions produce such a tension.

Appellants ask the Office to reconsider both of these assertions. First, vibration of one body does not inherently place an attached second body under mechanical tension. Second, claim 1 requires that the tension exist on assembly, even when the panel is not vibrating.

(a) Vibration does not inherently cause tension.

To establish anticipation by inherency, the Examiner must provide a rationale or evidence that the descriptive matter missing from the reference is *necessarily* present. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed.Cir. 1999) (citations omitted); M.P.E.P. § 2112 s. IV. It is not enough that the claimed feature *may* occur. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (citations omitted). The Examiner must support the inherency theory with “facts and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original); M.P.E.P. § 2112 s. IV.

In this case, the Examiner has offered nothing but a conclusory statement that tension in Azima’s cover layer and suspension inherently results from vibration of the panel:

“[A]s the diaphragm (panel) vibrates, it is inherent that the suspension 3 is under mechanical tension. That is, as the panel vibrates, it will inherently produce a force causing or tending to cause extension in at least a part of skin 21, core 22 and suspension 3.”

(Examiner's Answer, section 10). This assertion offers no explanation of how Azima's physical arrangement necessarily results in both at least a portion of a cover layer and the suspension being under mechanical tension.

The absence of any rationale or evidence to substantiate the Examiner's conclusion is underscored by Azima's latent ambiguity: it is not clear whether Azima's suspension 3 is under tension, compression, or some other force as it lies squashed underneath or behind loudspeaker 81. This ambiguity prevents one from drawing any inference about the effect of panel vibration on mechanical tension in the cover layer or suspension. For example, if the suspension is being compressed by the weight of the panel, then expansive forces, if any, from the panel vibrations may very well not be enough to cause the suspension or a portion of the cover to be under mechanical tension. The Examiner's conclusion, then, can be reached only by making unwarranted assumptions about what Azima teaches.

Tension in the cover or the connecting element, therefore, is not an inevitable consequence of panel vibration. Absent any rationale or evidence to the contrary, the rejection based on inherency cannot stand.

(b) Claim 1 requires that tension be present upon assembly of the panel loudspeaker, even in the absence of vibration.

Even if tension in the cover and connecting element did necessarily result from Azima's panel vibration, Azima still would not anticipate the claimed panel loudspeaker, because claim 1 requires the cover and the connecting element to be under mechanical tension upon assembly, not just when the panel is vibrating. Claim 1 specifies that "the at

least one connecting element is under mechanical tension *when connected with the periphery*" (emphasis added): it is not enough that the connecting element can be put under mechanical tension after assembly; connecting the loudspeaker must itself have resulted in that tension. In contrast, there is nothing in Azima from which one can conclude that assembly of Azima's loudspeaker necessarily places its connecting element or cover layer portion under mechanical tension. Azima simply lacks the physical structure required to place those parts under tension at assembly. So, even if it were true that Azima's panel vibration inherently places the connecting element and a cover portion under mechanical tension, there still would be no basis for concluding that Azima anticipates the claimed subject matter.

(2) Claim 9

Appellants note first that the Examiner has never explained with specificity the basis for rejecting the subject matter of claim 9. The rejection has always been grouped with that of claim 1, but the Examiner's explanation never calls out what structure the Examiner believes meets the limitations of claim 9.

Claim 9 requires that "a mechanical tension in the at least one connecting element is different from the mechanical tension in the at least one tensioned cover layer."

The Examiner stated that "it is inherent that a mechanical tension in that [*sic*] at least one connecting element is different from the mechanical tension in the at least one tensioned cover layer" on page 3 of the Final Office Action dated March 23, 2004 but did not explain from what feature of Azima the different tensions necessarily follow.

As discussed above with reference to claim 1, such a conclusory statement does not meet the Examiner's burden to provide a rationale or evidence tending to show that the allegedly inherent result is a necessary consequence of the prior art's teachings. With regard to claim 9, the Examiner has not explained *why* different tensions in the connecting element and a cover layer portion unavoidably result from vibration of Azima's panel. Without such an explanation, the Examiner has not made out a *prima facie* case of anticipation.

For these reasons, Appellants respectfully ask that the rejection of claims 1, 3, 8, and 9 be reversed.

B. Claim 6 is nonobvious over Azima.

Claim 6 depends from patentable claim 1 and is therefore itself also patentable.

C. Claims 2 and 4 are nonobvious over Azima in view of Azima II.

Claims 2 and 4 were newly rejected in the Examiner's Answer as unpatentable under 35 U.S.C. § 103(a) over Azima in view of Azima II.

(1) Claim 2

Claim 2 requires that the at least one cover layer extend to the periphery of the panel loudspeaker. The Examiner acknowledged that Azima does not teach this feature but asserted that it would have been obvious to combine Azima with an embodiment illustrated in Azima II's Fig. 28. That embodiment, according to the Examiner, shows a cover layer (identified by the Examiner as un-numbered "outer skin") extending to periphery 101.

Appellants respectfully ask the Office to reconsider this rejection. Close study of Azima II's Fig. 28 and its description shows that what the Examiner considers to be an outer skin is actually the television cabinet 101. The lead lines for elements 3 give the deceptive appearance of joints, but it is clear that those lines cut through the cabinet 101 to touch the troughs of grooves 100. The illustrated embodiment has only one cover layer—inner skin 21—and that cover layer does not extend to the periphery. If there were an outer skin, it would have been indicated in Fig. 28 or on the right-hand side of Fig. 27, which shows the outer aspect of loudspeaker 81. It would at least have been mentioned in the specification. But while the specification calls out core 22 and inner skin 21 (col. 38, lines 61-63), it makes no hint or mention of an outer skin. Azima II therefore does not teach a panel loudspeaker in which at least one cover layer extends to the periphery, so the combination of Azima and Azima II still lacks this element of claim 2.

(2) Claim 4

Claim 4 requires that the periphery be formed by at least one additional panel. The Examiner acknowledged that Azima does not teach this feature but asserted that it would have been obvious to combine Azima with an embodiment illustrated in Azima II's Fig. 18. That embodiment, according to the Examiner, shows a periphery 82 formed by panel 2.

Appellants respectfully ask the Office to reconsider this rejection. Claim 4, by virtue of its dependence on claim 1, requires that the periphery surround the panel with a lateral gap, such as the gap labelled "A" in Appellants' Fig. 3. Azima II's Fig. 18 shows no lateral gap with which panel 2 surrounds panel 4, so panel 2 cannot be said to form part of a "periphery" as defined by claim 4. Instead, panel 4 is surrounded by suspension 3,

which, from all that is apparent in Azima II, completely fills the space between panel 2 and panel 4 and thereby leaves no lateral gap. Azima II therefore fails to teach the element that the Examiner acknowledges is absent from Azima. Even if combined, then, Azima and Azima II do not meet claim 4.

For these reasons, Appellants respectfully ask that the new rejection of claim 2 and 4 be reversed.

(8) Claims Appendix

See pages 9-10 of this Reply Brief.

(9) Evidence Appendix

See page 11 of this Reply Brief.

(10) Related Proceedings Appendix

See page 12 of this Appeal Brief.

CONCLUSION

For the reasons given above, Appellants ask that the rejections of claims 1-4, 6, and 8-9 be reversed.

Respectfully submitted,
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(8) Claims Appendix

1. Panel loudspeaker comprising
at least one sound radiating panel having a core layer and at least one cover layer
connected with the core layer,
a periphery that surrounds the at least one sound radiating panel with a lateral gap,
and
at least one connecting element that connects the at least one sound radiating panel
with the periphery,
wherein the at least one connecting element is under mechanical tension when
connected with the periphery, and
wherein regions of the at least one cover layer that are connected with the core
layer are also under mechanical tension.
2. Panel loudspeaker according to claim 1,
wherein the at least one connecting element is formed by the at least one cover
layer of respective sound radiating panel in that at least one of the cover
layers of the respective sound radiating panel extends to the periphery.
3. Panel loudspeaker according to claim 1, wherein the periphery is formed by a frame.
4. Panel loudspeaker according to claim 1, wherein the periphery is formed by at least one
additional panel.
5. (not on appeal)

6. Panel loudspeaker according to claim 1, wherein the sound radiating panel is a bass panel adapted to reproduce low-frequency sound.
7. (canceled)
8. Panel loudspeaker according to claim 1, wherein at least one of the core layer and the at least one connecting element is provided with a damping element.
9. Panel loudspeaker according to claim 8, wherein a mechanical tension in the at least one connecting element is different from the mechanical tension in the at least one tensioned cover layer.

(9) Evidence Appendix

none

(10) Related Proceedings Appendix

none